

Figure 1A

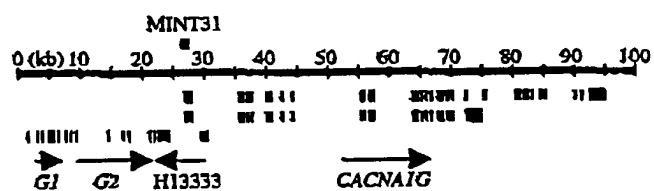


Figure 1B

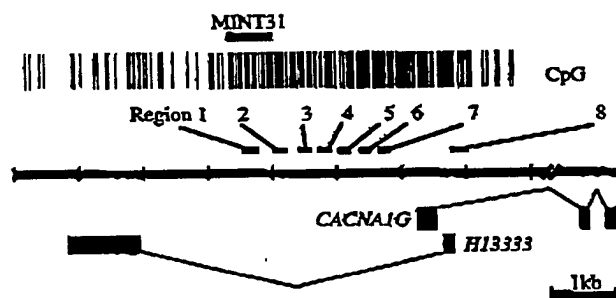


Figure 2

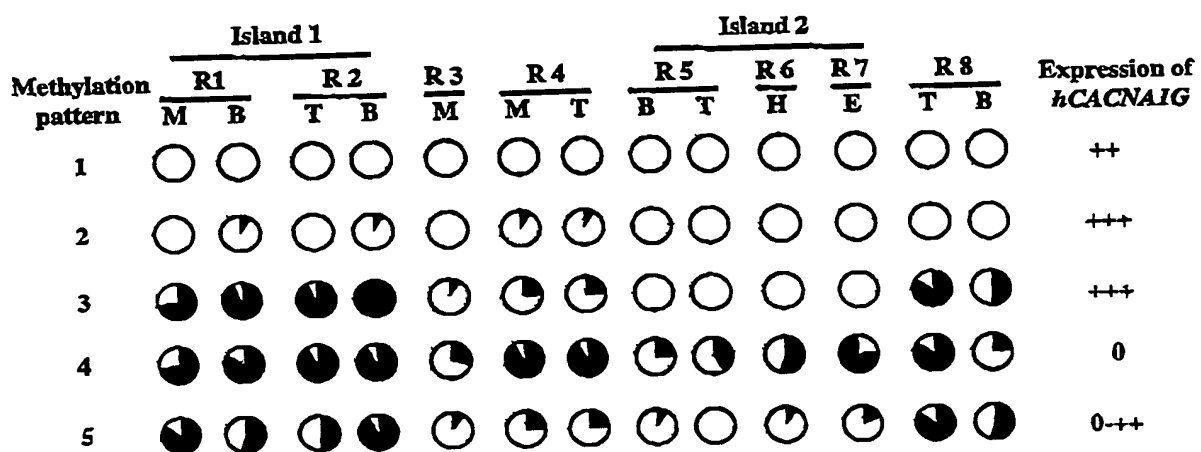


FIGURE 3A (SEQ ID NO:51) CACNA1G nucleotide sequence

CCTTTTCGTTTCGCCCTCTCGGGGCGGCTTCGCCGAAGGTAGCGCCGAATCCGGCAACCGGAGCCTGGGCGCGAAGCGAAG
AAGCCGGAACAAAGTGAGGGGAGCCGGCCGGCTGGCCCGGAAGCCCCAGGGGCGCAGGGGAGCTGGGCTGAACTGGCCCTCCC
GCGGGGTTTCCCTGCGCCCCGGCGCCCCGCGGGCAGCATGCCCTGCGGGCAGGGGAGCTGGGCTGAACTGGCCCTCCC
GGGGGCTCAGCTTGCGCCCTAGAGCCCACCAGATGTGCCCCCGCGGGGCCCGGGTTGCGTGAGGACACCTCCTCTGA
GGGGCGCCGCTTGCCCTCTCCGGATCGCCCGGGGCCCCGGCTGGCCAGAGGATGGACGAGGAGGAGGATGGAGCGGGCG
CCGAGGAGTCGGGACAGCCCCGGAGCTTCATGCGGCTCAACGACCTGTGCGGGGCCGGGGGCCCGGCCGGGGCCGGGGTCA
GCAGAAAAGGACCCGGGCGAGCGCGGACTCCGAGGCGGAGGGGCTGCCGTACCCGGCGCTGGCCCCGGTGTTTCTTCTA
CTTGAGCCAGGACGCCGCCCGCGGAGCTGGTGTCTCCGCACGGTCTGTAACCCCTGGTTTGAGCGCATCAGCATGTTGG
TCATCCTTCTCAACTGCGTGACCCTGGGCATGTTCCGGCCATGCGAGGACATCGCCTGTGACTCCACAGCGTGCCGGATC
CTGCAGGCCCTTTGATGACTTCATCTTTGCTTCTTTGCGGTGGAGATGGTGGTGAAGATGGTGGCCTTGGGCATCTTTGG
GAAAAAGTGTTACCTGGGAGACACTTGGAACCGGCTTGACTTTTTTCATCGTCATCGCAGGGATGCTGGAGTACTCGCTGG
ACCTGCAGAACGTCAGCTTCTCAGCTGTGAGGACAGTCCGTGTGCTGCGAACCGTCTAGGGCCATTAACCGGTGCCAGC
ATGCGCATCCTTGTACGTTGTCTGGATACGCTGGGCAACGTCCTGCTGCTCTGCTTCTTCTGCTTCTTCTTCTTCTT
CATCTTCGGCATCGTCGGCSTCCAGCTGTGGGCGAGGCTGCTTCGGAACCGATGCTTCTTACCTGAGAATTTAGCCTCC
CCCTGAGCGTGGACCTGGAGCGCTATTACCAGACAGAGAACGAGGATGAGAGCCCCCTTCATCTGCTCCAGCCACGCGAG
AACGGCATGCGGTCCTGCAGAAGCGTGCCACGCTGCGCGGGGACGGGGGCGGTGGCCACCTTGCGGTCTGGACTATGA
GGCCTACAACAGCTCCAGCAACACCACCTGTGTCAACTGGAACAGTACTACACCAACTGCTCAGCGGGGAGCACAACC
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CCGTCCACACCTGCTGGTGACCAACCACCACCACCATCACCACCCTACCACCTGGGCAATGGGACGCTCAGGGCCCCCGG
GCCAGCCCCGAGATCCAGGACAGGGATGCCAATGGGTCCCGCCGGCTCATGTGTCACCAACCCCTCGACGCTGCCCTGCTC
CGGGGCCCCCCTGGTGCGCAGAGTCTGTGACAGCTTCTACCATGCCAGTCCACTTAGAGCCAGTCCGCTGCCAGG
CGCCCCCTCCCAGGTCCCCATCTGAGGCATCCGGCAGGACTGTGGGCAGCGGGAAGGTGTATCCCACCGTGACACCAGC
CCTCCACCGGAGACGCTGAAGGAGAAGGCACTAGTAGAGGTGGCTGCCAGCTCTGGGCCCCCAACCTCACCAGCCTCAA
CATCCCACCGGGGCCCTACAGCTCCATGCACAAGCTGGAGCCTGTGGTCCAGACAGCTGCCCCTACTGTGCCCGGGCCGGGGCAGGG
TCTCCAGCCCTTGCTTGAAAGCAGACAGTGGAGCCTGTGGTCCAGACAGCTGCCCCTACTGTGCCCGGGCCGGGGCAGGG
GAGGTGGAGCTCGCCGACCGTGAAATGCCCTGACTCAGACAGCGAGGCACTTTATGAGTTACACAGGATGCCAGCAGCAG
CGACCTCCGGGACCCCCACAGCCGGCGGCAACGGAGCCTGGGCCCAGATGCAGAGCCAGCTCTGTGCTGGCCTTCTGGA
GGCTAATCTGTGACACCTTCCGAAAGATTGTGGACAGCAAGTACTTTGGCCGGGGAATCATGATCGCCATCCTGGTCAAC
ACACTCAGCATGGGCATCGAATACCACGAGCAGCCCGAGGAGCTTACCAACGCCCTAGAAATCAGCAACATCGTCTTTCAC
CAGCCTCTTTGCCCTGGAGATGCTGCTGAAGCTGCTTGTGTATGGTCCCTTTGGCTACATCAAGAATCCCTACAACATCT
TCGATGGTGTGCTGCTGAAGCTGGTGGCTTCTGCGGCGCTGCGGCGGCGCTGCGGCGGCGCTGCTGCTGGGCCATCGTCACTGTC
AGTTTGCCTCTGAGCGGGATGGGGACACCCTGCCAGACCGGAAGAATTTTGAATCCTTGCTCTGGGCCATCGTCACTGTC
TTTCAGATCCTGACCCAGGAGGACTGGAACAAAGTCTCTACAATGGTATGGCTCCACGTCGTCCTGGGCGGCCCTTTA
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TTGGCCTTGGTGTCCCTGGGAGAGCACCCGAGCTGCGGAAGAGCCTGCTGCCGCTCTCATCATCCACACGCGCCGCAC
ACCCATGTGCTGCCCAAGAGCACCGACCGGCGCTGGGCGAGGCGCTGGGCGGCGCTGGGCGCTGCGTGGCGCCGACCAAGCAGCAGCG
GGTCGGCAGAGCCTGGGGCGGCCACGAGATGAAGTCAACGCCAGCGCCGAGCTCTCCGACAGCCCTGGAGCGCT
GCAAGCAGCTGGACCAGCAGCGCTCCAGCCGGAACAGCCTCGGCCGTGCACCCAGCCTGAAGCGGAGAAGCCCAAGTGG
AGAGCGGCGGTCCCTGTTGTCGGGAGAAGGCCAGGAGAGCCAGGATGAAGAGGAGAGCTCAGAAGAGGAGCGGGCCAGCC
CTGCGGGCAGTGACCATCGCCACAGGGGGTCCCTGGAGCGGGAGGCCAAGAGTTCTTTGACCTGCCAGACACACTGCAG
GTGCCAGGGCTGCATCGCACTGCCAGTGGCCGAGGGTCTGCTTCTGAGCACCAGGACTGCAATGGCAAGTCGGCTTCAGG
GCGCCTGGCCCGGGCCCTGCGGCTGATGACCCCCCACTGGATGGGGATGACGCCGATGACGAGGGCAACCTG

[illegible]

GNL

FIGURE 4A

APOB CpG ISLAND (SEQ ID NO:105)

cccgggaggcgccctttggaccttttgaatcctggcgctcttcagccctgggcttctataaatggggtgcgggcgccggccgcgcatc
ccaccgggacctgcggggctgagtgccttctcggttctgctgctgagggagcccagccagccagggccgcgagggcaggcc
aggccgcagcccaggagccgccccaccgcagctggcgatggacccgccgagggccgcgctgctggcgtgcctgctgctgctgct
gctgctggcgggcgccagggccggtgagtgcgcggcgctctgctgggcagcagaggagcgggaggagccggcgaccgaggtt
ggccggggcagcctgggctaggccagaggagggcagccacagggtccaggggcagtggggggattggaccagctggcgggcccc
tcagggtcaggatggggggcgcgggatggaggggctgaggagggggtctccggagcctgcctccctcctgaaaggtgaaacctgtgc
cgggtgtccccctgtcggggccctagcaccgcgtgggaagacgtgggaagctc

CACNA1G CpG ISLAND (SEQ ID NO:106)

cctcgggccctacgccaggaccccgccgaataactctgattcttcgggctccctccaaggagtgccaaagaccccaatggccaatagg
aaagtgggttcggtctgggcagcagctgattggctccagccttcgggagcgagaccaggggcaaggggaggggagagggcggtcct
gggttttgggttggaatcgattccagctgtgttctctccctgcgctcccggcgactgccacggcgagccaatggcgcgcggg
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cctccccgggggtcagcttgcggcctagagccaccagatgtgccccggcgggggccccgggtgcgtgaggacacctctctgagg
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FIGURE 4B

CDX2 CpG Island (SEQ ID NO:107)

ctcgtaatcacggaagccgcccggcctggggctccgcagccagcctgtgcgggtcttccccgcctctgcagcctagtgggaaggaggt
gggaggaagaaggaagaaggaggaggaggaggagggagggagggaccgcctcggaggcagaagagccgcgagg
agccagcggagcaccgcgggctggggcgagccacccgccgctcctcagtcacctcggcccttcccttcgtgcccccggcagcctc
cagcgtcgggtcccaggcagcatggtgaggtctgctcccggtccctcggccacctgtacgtgagcta

EGFR CpG Island (SEQ ID NO:108)

gtccgcggggaccgggtccagaggggcagtgtgggaacgcccctctcgaaattaactcctcagggcaccgctccccctccatgcgc
gccccactcccgcggagactaggtcccgcggggggccaccgtgtccaccgcctcgcggccgctggccttgggtccccgctgtgttct
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gccgaaagccccaggtctcctcgtatggcgccctcgcggagacgtccgggtctgtccacctgcagccctcggtcgcgctgggttc
gcgggtggagcgggacgcggctgtccggccactgcagggggggtatcgcgggactcttgagcggaagccccg

FIGURE 4C
FBN1 CpG Island (SEQ ID NO:109)

agagccgcgtctggagtgggctctcgacacccagggaagtgggggcggcagagccctctcctcggtcggcacagcagcctctgccgcggtcccgg
cctgcgacgcgccagctcttagcctcccggcctccggcgtctgctgagtgccggcgggagaggcgagggagcgctaccgggagggcggggc
agcgggggactggtttctcgggagggcctccggggcaaccgtctccagcgcgctattcttggtcaggtggaacagctttctgctccggtagggtt
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ggcttttgcgttgcgcnngaggcgaggacagggactgggtgaggggtgtcccgaaacgtcaacgtgncgtgagacctcccctgct
gacagcttctgncgggggtcttctgtgcccggncggcgtcagatgttggggggcggtgcacgcccggagtcggcggggacggcgcggtgct
ccagctggcgagagggcgagctgagggagtggtgagcgcgcacgcgcgaattcgtccgctaaaaaaaataaacccagagagctcgc
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ggagaaggcgaggagcccgccggggggacggcgggcggtatagcgggaccccgcgcgcggtgcgcttcagggcgagcgggcgccg
cagaccgagccccggcgcggaagaggcgggggagccggtggcggtcggcatcatgcgtcagggcgctctgctggagatcgccctgggattt
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ggcggtggaggacacgacgcgttaaagggtaaaggaaaccggttcctc

GPR37 (SEQ ID NO:110)

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ccgcgcaggctccgcgcctccgccctgttccctccagctcctccgagtggaagccgctacaaatggcttgaatgaaacgtgtgtgggttagtgagtg
gtgaaccaccaggggatcccgtctcccaacaaacagatctctccgaggagggagcgaaggagtgaggagggaacgagccgagagtcgagctt
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gggggtggaatcccgttctcctcggcagcagtaggctcgaagtcgctggggtaggtggggcaagagtttcggcgcgcatcagcgctgttcggac
tgtttgcaacgtgttccagcgagctgggagcggggtgtgactgcgagtcgttggggaggggactgttttttcttcttagagacctcggttgca
actgatcaaacgctgtcga

HSPA6 CpG Island (SEQ ID NO:111)

tgtattcgatggaacatatcttgggtcttctgcccgtgggtctcagcgccctccaaggcagcccgaggcccggtctcgctcaggatcctccac
agccccggggagaccttgctctaaagtgtgcttttgcagctctgccacaaccgcggtcctcagagccagccgggaggagctagaaccttccccgc
gttttctcagcagccctgagtcagagcggggtggccttgcaagtagccggccagccttctcgtctcacggaccgatccgggaaccttctccgg
ggctcagcgccgctgcgcggccgggtgactcagccggcgggcgggcggggaggtctcactggcggggaaggtgcgggaaggttcgcgg
cggcggggtcggggaggtgcaaaaggtgaaaagccgtggacggagctgagcagatccggcggggtggcgagagaaaccgagggagag
cctcactgctgagcgccctcgacgcggcgggcagcagcctccgtggcctccagcatccgaca

FIGURE 4D

IQGAP2 CpG Island (SEQ ID NO:112)

Agagttcacttttacttcagtgtcagcgcgccggcgccgtggctggctctggcgagagagcaccgagggagtggtcgcagatcttcgg
gcggctaggggaaatcggcgagagggcgccgatccgagcgcgccggcgccggcgagagcccgcagcctggccagcgagggtagcc
gcggggggcgcgccccggcgccggccccggagacgcgcaggatgccacacgaagagctgccgtcgctgcagagaccccgtatgg
ctctattgtggacgatgaaa

KL CpG Island (SEQ ID NO:113)

ctcgaaagagggcgcggtggcgcgctctccccgcgagcatctcacctaagggggaatccctttcagcgacggcgaaagtccccctc
ggctgtcccacctggcagtcctctaggtttcggccagtccttaattggctccagcaatgtccagccggagcttctttgggcctccgagtg
gagaaaagtgcagcaggtgcttccccagcgcgctccgctagggcccgagcagatcccggcccaagtcgggaaaagtggctg
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agggcggtgagcagcagcagggcaagggtgcgtccatctgggacacgttcacccaccacccccctggcacccccgggagactcccgga
acgccagtctgctgtggcgccccgtcgcgctgcagcccgcaccggggacgtaccagcgacagctacaacaacgtcttccgcga
cacggaggcgctgcgcgagctcggggctactactaccgcttctccatctcgtggcgcgagtgctcccaatggcagcgcgggcgctc
ccaaccgcgaggggctgcgctactaccggcgctgctggagcggtgcgggagctggcggtgcagcccgtggtaccctgtaccactg
ggacctgccccagcgctgcaggacgctacggcggtgggccaaccgcccctggccgaccacttcagggattacgcggagctctgc
ttccgccacttcggcggtcaggtcaagtactggatcaccatcgacaaccctacgtggtggcctggcacggctacgccaccggcgccgtg
gccccggcatccggggcagcccgcggtcgggtacctggtggcgcaaa

PAR2 CpG Island (SEQ ID NO:114)

Cccggggcggtggcctcccgaggtgagtacgtgctccttcggttccctgaaacctaacccgccctggggagggcgcgagcagaggct
ccgattcggggcaggtgagaggtgactttctcgggtgcgtccagtgagctctgagttcgaatcggcgcgccgggattccccgcgcgc
ccggcgctcggggcttcaggaggtgcggagccccagcgcgcgctggctgctgggggcccacatcctgc

FIGURE 4E
PITX2 CpG Island (SEQ ID NO:115)

FIGURE 4F

SDC1 CpG Island (SEQ ID NO:118)

Ggagaggtgcgggccaatccgagccgagcgagaggaatccggcagtagagagcggactccagccggcgaccctgcagccctgc
cctgggacagcggcgcgctgggcagggcgccaagagagcatcgagcagcggaacccgcgaagccggcccgagccgcgacccgc
gcagcctgccgctctcccgccgggtccgggcagcatgaggcgcgcggcgctctggctctggctgtgcgcgctggcgctgagcctgc
agctggccctgccgca

SDC4 CpG Island (SEQ ID NO:119)

Agtaggagccggcgggctcgggcagggcggggtcccttggggtttcaactccgcggcgggcgagtgccccgcaggcctcgcttcc
actggggaattccgggcggggtgcgggcggcgggcgggggcgggcgggcgggcgtaggcccctataagatgggtggcg
cgcccggcggggccaactcgccgcagcctgcgcgccttctcagtcgcgggtgccatggccccggcgctgttgcgctgctgctgtt
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gtgtactcgaagggggagggttttaggggtgtgcaggccc

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FIGURE 5

MINT31 (SEQ ID NO:120)

CCCGGGGCCT	CTATCCTGGC	GGGAAGGGCA	GGCCGACCCG	GCAGACTGCG	GCCTCTCGGG
AGGGAAGAAG	GTGTCAGACG	CGCGGAGCAA	CCATAAATAG	CCCCCCTTTC	CCAGAAGACG
GCACGGGGTT	CAAGACTCAG	GCGCCGCATA	CTCAGAATGA	GAGCAGAGAC	TCCCGCCAGG
AAAAAAGGGC	ACTTAGGGGA	TCTGCTCATT	AACATGAAAT	GCAAATGAGC	CCGCCCCGGC
TCATTTACAC	AACTCTGTGC	ATGGATTTCG	CGAAAGGGCA	ACCAGGGAGA	CGACGGCGCA
GCAGCCACTC	TGCCACTTCC	CCCATCCCCT	CCCCCCCATC	GGCCGGGGCG	GGAAGTGA
CGACCCCAAC	CCTCTGCGGC	GGCGGGAGGT	GCGCGGGGGC	TGCGTGGGTG	GTGCAGCCTT
AGGGGAGTGA	ACAACGCCCC	GGGGTGATGG	CCTCAGCAAA	GTGAGGGGTG	GTGATGGAGG
TCATCCGACC	CATCCCGCCG	CCTCTCCGCA	GTGGCGCAAG	CGCCCCAAAA	TCTCCGGAGA
NGGAACTGAG	TGACCCACTA	GGTTCCGCCG	TGTCTACCTC	TCGCAGATGT	TGGGGAAGTG
CTTCCCGGCG	TCTAATCCTC	GCTGTTCCCC	CCTCCACCGG	CGCCCAGCAC	ACCCGCGGCG
CTCCGCTCCC	GGG				